

for Aggression Assessment). Serum testosterone hormone assays were performed. Statistical data analysis was done by parametric statistical tests, Kolmogorov-Smirnov test, Student's t-test and simple linear regression. All data were presented as mean values and corresponding standard deviations (SD).

**Results:** Testosterone levels didn't differ significantly between aggressive and nonaggressive subjects. There were no significant differences between testosterone levels in suicidal aggressive subjects compared to nonsuicidal aggressive respondents ( $t=0.616$ ;  $p=0.540$ ). The largest number of subjects in both groups had referent testosterone levels.

**Conclusions:** Despite expecting a significant effect of testosterone levels on aggression in women with schizophrenia, conducted by previous studies, no correlation has been found. Suicidal behavior surprisingly didn't depend on the subjects' testosterone levels.

**Key words:** aggression - schizophrenia - testosterone - women

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## ONSET OF SCHIZOPHRENIA PRIOR TO THE END OF BRAIN MATURATION ALTERS GREY MATTER VOLUME LOSS

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**Background:** Brain maturation is considered completed around the age of 25, when prefrontal cortex maturation has been achieved. The aim of our study was to investigate the alterations of grey matter (GM) in patients with the onset of schizophrenia before and after the completion of brain maturation.

**Subjects and methods:** The study group included 100 schizophrenia patients, while the control group comprised 50 healthy individuals. Brain magnetic resonance imaging was acquired on a 1.5 T scanner. Voxel-based morphometry (VBM) analyses were performed between groups.

**Results:** GM of the schizophrenic patients is reduced in many regions ( $p<0.005$  FDR corrected). Most widespread reduction is detected in frontal cortex and cerebellum, the other regions being limbic cortex, insula, cuneus, precuneus, superior temporal gyrus and motor cortex. The decrease of grey matter volume (GMV) increases with the increase in number of psychotic episodes and is more pronounced in the patients with earlier onset of the disease.

**Conclusions:** The age of the onset of the disease is important for both total and relative loss of GMV. Earlier onset of schizophrenia, prior to full brain maturation results in significant reduction of GM in comparison with healthy subjects and patients with later, post full brain maturation onset of the disease.

**Key words:** schizophrenia - brain maturation - voxel-based morphometry

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## ALPHA POWER IN VISUOSPATIAL WORKING MEMORY REVEALS POSSIBLE INHIBITORY DEFICIT IN SCHIZOPHRENIA

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**Introduction:** Visuospatial working memory (vsWM) comprises a set of processes for short-term visual information storage and manipulation that is known to be at the core of many higher-level cognitive

functions. Deficits observed in schizophrenia (SCZ) patients were more consistently found in vsWM than in other WM modalities. Specifically, it is believed that memory encoding and early maintenance are most affected. It was first hypothesized that this deficit is caused by an impairment of attentional processes. However, recent research has found that attention during encoding might actually be preserved in SCZ. Therefore, the mechanisms of reduced vsWM capacity in SCZ remain unclear. Our previous work indicated that the observed behavioral and electrophysiological indices of WM storage deficit are mostly attributable to the patients' inability to exclude taskirrelevant distractors. Since oscillatory alpha activity has been reported as being implicated in the suppression of irrelevant information, in the present follow-up analysis, we investigated whether the observed deficit is reflected in induced alpha oscillatory power.

**Methods:** 15 schizophrenia patients and 15 age-matched controls completed a visual working memory task with 3 conditions (maintain 2 or 4 items, or maintain 2 items/inhibit 2 distractors) while their EEG was recorded using a 128-channel EEG system. Data were first preprocessed and cleaned using EEGLAB functions and then decomposed into the time-frequency domain by performing Morlet-wavelet convolution. We defined 8 regions of interest (ROIs) covering the left and right frontal, central, parietal and occipital regions. A time-frequency window of interest was defined for statistical analysis, which started at 300ms after the memory set presentation up to 800ms and spanned the frequencies between 7 and 14 Hz. Finally, statistical analysis was performed on these ROIs using RStudio.

**Conclusions:** The results indicate that SCZ patients have a lesser decrease in induced alpha power during the early maintenance of a memory set. However, this was present equally in all conditions, which might point to a general inhibitory deficit reflected by alpha induced oscillatory activity. The fact that the observed group effect was more prominent in the right hemisphere is in line with previous research showing preferential activation of the right hemisphere during visuospatial attention.

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## THE PHENOMENOLOGICAL ANALYSIS OF IMPAIRED AGE SELFCONSCIOUSNESS IN LATENT SCHIZOPHRENIA

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**Introduction:** The topic of research was phenomenon of impaired age self-consciousness in nonpsychotic latent schizophrenia patients defined. To explore features of impaired age self-identity and to determine syndromic affiliation of the syndrome in comparison with premorbid personality disorders traits.

**Methods:** The study sample comprised 141 patients with latent schizophrenia (pseudoneurotic (F21.3 - 64.5%, 91 patients), cenesthopathic (F20.8 - 25.5%, 36 patients) and pseudopsychopathic (F21.4, - 9.9%, 14 patients)) aged 16-31 (average 22.1 years old) in 2007-2019. A follow-up, experimental psychological and clinical study was conducted.

**Results:** The onset of impaired age self-identity was dominated by a radical drop of the subjective age in self-conscious mind of the patients accompanied by a tormented feeling of loss of self-dependence, role autonomy, helplessness, inability of decision making and to be answerable. Patients described this sudden condition as a loss of 'maturity feeling' and return to the juvenile perception of self. In a delusive and unclear manner, phrases such as 'I feel inferior to others as if a helpless child among adults', 'I feel as if my childhood is back' were uttered. Excessive worrying and enlivening of childhood memories were also included. This correlates to occurrence of humble and sometimes dependent/avoidant behavior, feeling of helplessness and fear with respect to caring for one self, rising subordination and suggestibility. Consequently, patients often became victims of fraud and prejudice.

**Conclusions:** On the level of self-consciousness, sudden age regression was marked by profound internal changes about oneself and in general, to the external world. This phenomenon of regress to earlier ontogenetic level of personal development reported as impaired age self-consciousness can thus be regarded as an obligate form of depersonalization.

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